



THE BOOK OF

R



This book is all about radios and railroads, rainbows
and rockets, and lots of other exciting R's.

a Golden Book



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rabbit



A rabbit is a small, soft,
furry animal.
It has long ears
and a short, fluffy tail.



Rabbits eat
cabbages and lettuce
and other plant foods, too.
Wild rabbits make their homes
in the shelter
of tree roots
or thick brush.



Tame rabbits live in cages.
Some are raised for fur.
Some are raised for food.
Some are pets.
Mother rabbits
have many babies.
They take good care
of their babies.
They pull soft down
from their own fur coats
to line nests
for their baby bunnies.

radio



We hear music and voices
from far away over the radio.
We say a radio program is
broadcast.

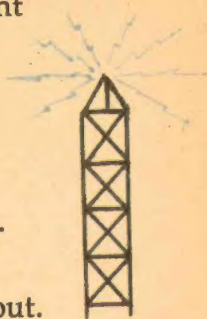
"Broadcast" means
"throw in all directions."
Most radio programs start
in a broadcasting studio.



The entertainers
speak or sing
into a microphone.
Or an orchestra plays
with a microphone
in front of it.
The speaking, singing,
or playing
sets up waves in the air.
We call these waves
"sound waves."
(See *sound*
in the second S book.)

The sound waves affect
a tiny electric current
in the microphone.

This electric current
is made stronger.
It is sent up
a transmitter tower.
From the tower
radio waves speed out.



Some of the waves
strike the antenna
of your radio set.
They set up an electric current
in it.

If the radio is turned on
you can turn a knob
and tune in to the program.

The sounds you hear
come from the loudspeaker
of your radio.

Radio waves travel so fast
that you can hear a program
at the very same time
it is being broadcast!



railroad

A railroad has a road or track
made of steel rails.

The rails are nailed down
to wooden beams called ties.



The ties are laid on a bed
made of gravel and cinders.

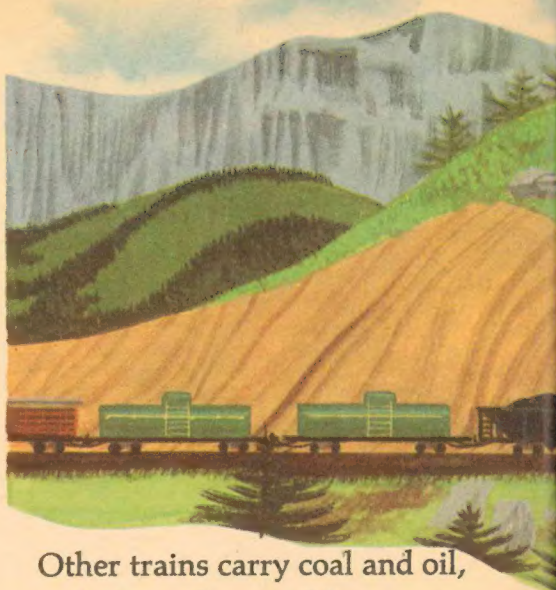
Trains run on the track.

Locomotives pull the trains.

(See *locomotive* in the L book
and *travel* in the T book.)

Some of the trains carry people.

They are passenger trains.

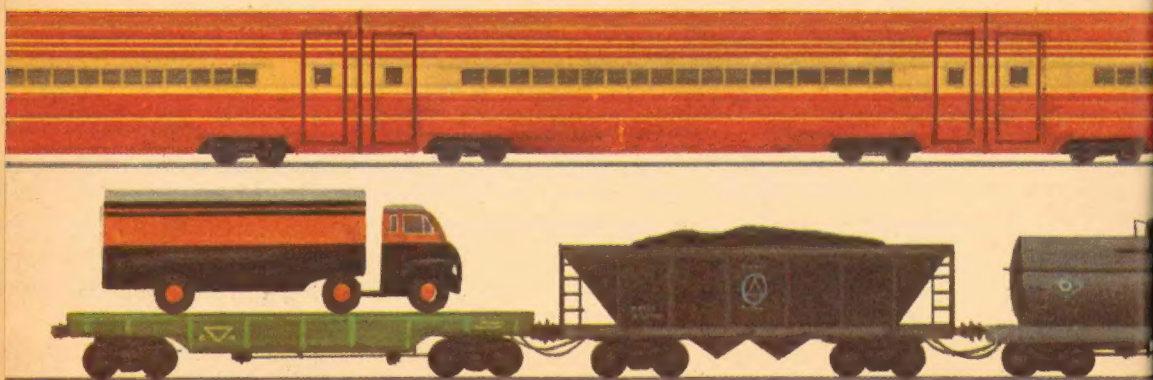


Other trains carry coal and oil,
fruits and vegetables,
cattle and machinery.

They carry all sorts of loads.

They are freight trains.

The rims of a train's wheels
fit over the steel rails
of the track.





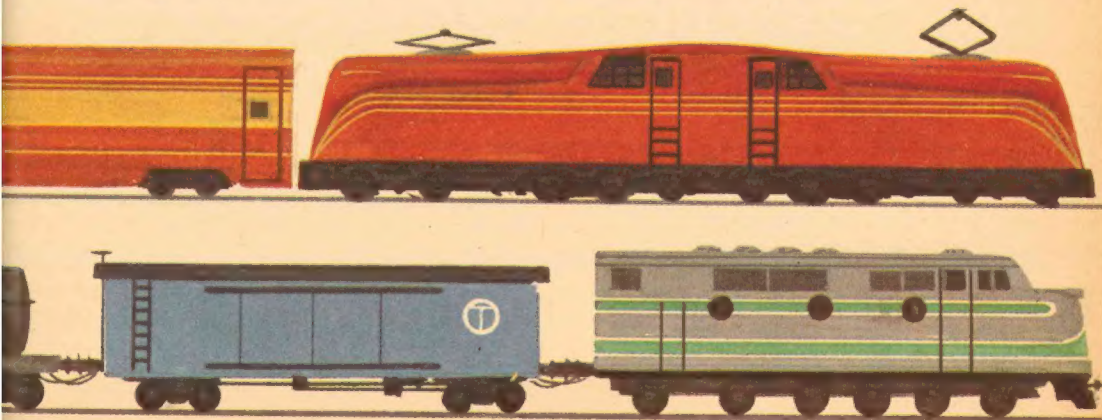
Trains run best
when the track is smooth
and level.

When railroad tracks are laid,
tunnels are dug
through mountains.

Bridges and trestles are built
over rivers and deep places.

Embankments are built
on low, wet land.

All these things help
to make tracks level.



Many trains run
on the same track.
Here are two trains.
They are coming
toward each other
on the same track.
Will there be a wreck?
No.
One train comes to a switch.



It will be switched off
onto a short side track
called a siding.
The track will be clear
for the other train.
Soon the first train
will back up
onto the main track again
and go chugging on its way.
There are signals
along the track.
Signals tell the engineer
of a train
what to do.

Some signals tell him to go slow.
Some tell him to stop.
Some tell him the track
is clear.
Some signals have colored arms.
They are called semaphores.
Some signals have colored lights.
Signals help keep the trains
running safely.

The men who work on a train
are called the train crew.
There is a fireman
to help the engineer.
There are brakemen
and conductors.
If it is a passenger train
and there is a dining car,
there are waiters and cooks.
And there is a steward in charge.
If there are sleeping cars,
there are porters
to take care of them.

Some railroad men
keep the track in good shape.
They are called section hands.

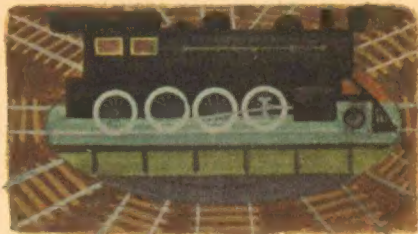


Some railroad men
work in the stations.
They take care of baggage
and tickets.



Some railroad men
look after railroad cars
and locomotives
between runs.
These men work
in the railroad yards.

A railroad yard
is full of tracks.
It has many switches
and sidings.
It has small switch engines
to move cars around.
It has turntables, too.



The turntables
turn locomotives around.
A locomotive is driven
onto a turntable.
The "table" turns around
with the locomotive on it
until it heads
in the right direction.
The turntable may be
in a building called
a roundhouse.

Locomotives stay
in the roundhouse
until their next run.
A railroad has many, many
kinds of work
for railroad men to do.

rain



Rain falls from clouds.
A rain cloud is made of water.
The water is in tiny droplets.
Sometimes many tiny droplets
gather into a big drop.
The drop is too heavy
to float in the cloud.

It falls to earth.

It is a drop of rain.

If raindrops fall
through very cold air,
they may freeze.

They fall to earth
as sleet.

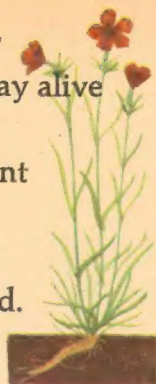
If the air around a cloud
is very, very cold,
ice crystals form
instead of raindrops.

They fall to earth as snow.



Plants need water
to help them stay alive
and grow.

The roots of a plant
get the water
the plant needs
from the ground.



Where rain falls or snow melts
water soaks into the ground.

It is ready for plants to use.

Where there is very little rain
and no other way
of getting water,
few plants grow.

The ground is too dry
for most plants.

We say the land is a desert.
(See *desert* in the D book.)

But it can rain too much.

Then there may be a flood.
(See *flood* in the F book.)

Rain can be good or bad.
It is not good for a picnic!

rainbow



We often see a rainbow
if it rains
while the sun is out.
All the colors of the rainbow
are in sunlight.

When sunlight falls
on raindrops,
its colors separate.

We see them arch in bands
across the sky.

The order of the colors
is always the same—

red
orange
yellow
green
blue
violet.



Sometimes we can see
a rainbow in the spray
of a water sprinkler
or a waterfall.

rain clothes

It is fun
to go out in the rain.
But when we do,
it is best to be dressed
for the rain.

Rubbers
or boots
keep our feet dry.



Rain hats
or plastic hoods
keep our heads dry.

Raincoats
keep most of
our clothing dry.

Some raincoats
are called ponchos.

You pull a poncho
over your head
to put it on.

When it rains, some people
carry umbrellas
to keep the rain off.



ranch



A ranch is a big farm
for raising cattle or sheep.

On a cattle ranch,
cowboys look after
the cattle.

The cattle wander
over the land,
eating grass.

We call this
grazing on the range.

Cowboys often ride the range
to see that the cattle
are safe and healthy.



When calves are born,
the cowboys
must brand them.

A brand is the mark
of the ranch.



The cowboys stamp the brand
onto the calf's skin
with a hot iron.

Then if the calf gets lost,
people can always tell
what ranch it belongs to.
The brand tells them.



Sometimes cowboys camp out
on the range.

They have a chuck wagon
that carries their food
and a cook
to cook their meals.

When the cowboys
are not riding the range,
they live in a bunkhouse.

They keep their horses
in a big pen
called a corral.



The rancher and his family
live in the ranch house.

The rancher decides
when to send cattle
to market.

Then the cowboys herd them
into a shipping pen.

The cattle walk up
onto a platform
and into a truck
or into the cattle car of a train.

And off to market they go.
For the cattle rancher's business
is raising cattle to sell.

A ranch where people
pay to come
and spend their vacation
is called a dude ranch.

There are many ranches
in the West.

record



We play records
on a record player.

Sounds are recorded
on a record
by a recording needle.

The needle cuts a wavy groove
around the record.

If we want to hear the sounds,
we set the record
spinning on the turntable
of a record player.

We place the record player's
needle onto the record.

It fits into
the record's grooves.

Then the record player
plays the sounds
which were recorded.

Music or voices
or any sort of sound
can be on a record.

Records are sometimes called
"discs" or "platters"
because they are round
and flat.

refrigerator



A refrigerator keeps food cold.

Keeping food cold
helps keep it from spoiling.

Years ago, the only refrigerators
were iceboxes.

The iceman put ice
in the icebox.

As the ice melted,
it cooled the food
in the icebox.

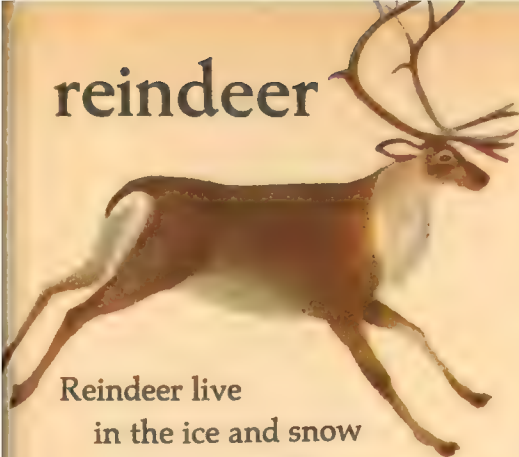
Now our refrigerators are run
by electricity or gas.

They have a special liquid
in the working part.

The liquid turns to gas,
then back to liquid,
over and over again.

Each time it turns to gas
it cools the food.

reindeer



Reindeer live
in the ice and snow
of the far north.
They live in herds.
Reindeer help people.
They furnish milk to drink,
and meat to eat,
and skins to wear.
They pull heavy loads
over the snow.
Stories say that reindeer
pull Santa Claus' sleigh
on Christmas Eve.



reptile

A reptile is an animal.
It may have short legs.
Or it may have no legs at all.



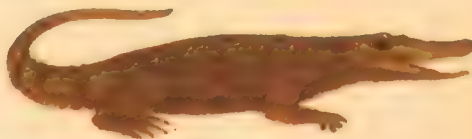
Snakes are reptiles
that have no legs.
They wriggle over the ground.



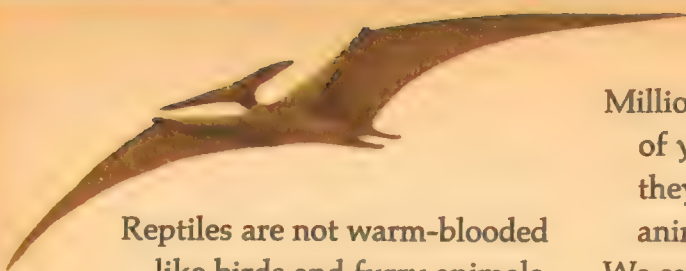
Lizards are reptiles.
Most lizards have short legs.
They can move very fast.



Turtles are reptiles
that have hard shells.
Some are called tortoises.



Alligators and crocodiles
are reptiles, too.



Reptiles are not warm-blooded
like birds and furry animals.
The reptiles that live
where winters are cold
must find a place to sleep
during the cold weather.
When they sleep
through the winter
we say they are hibernating.
Today reptiles are not
as important
as they once were.

Millions and millions
of years ago,
they were the leading
animals on earth.
We call that time
the Age of Reptiles.
Many of the reptiles of long ago
were dinosaurs.
(See *dinosaur* in the D book.)
Some reptiles swam in the sea.
There were even reptiles
that flew through the air.



rhinoceros



Indian
Rhinoceros

The rhinoceros is big
and clumsy looking.
Of all four-legged animals,
only the hippopotamus
and the elephant
are bigger.

The rhinoceros has
one or two sharp horns
sticking up on its nose

It has thick skin.

It lives where it is hot.

The rhinoceros
cannot see very well.

But it has a good sense of smell
and very good hearing.



African Rhinoceros

rice



Rice is a food.

It comes from a rice plant.

We eat the seeds
of the rice plant.

Rice grows well
in a lot of water.

Water is kept standing
in the fields
where rice is grown.



These fields of rice
are called paddies.

They have low walls
around them
to hold the water in.

Small rice plants are set
into the wet fields by hand.

When the rice is ripe,
the water is drained out.

In many countries
rice is the food
that people eat
every day.

river

A river is

a large stream of water
running downhill
on its way to the sea.

Many little streams
join to make a river.

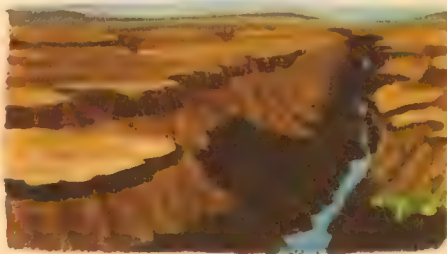
A river wears away
the earth it flows over
and makes itself a valley.

Water runs fast
when it runs down
a steep hill
or a mountain.

It can pick up sand
and pebbles
and bits of earth
and carry them along.

It can roll boulders.

As it moves earth and rocks,
a fast-flowing river
digs its valley
deeper and deeper.



It may dig a deep canyon.

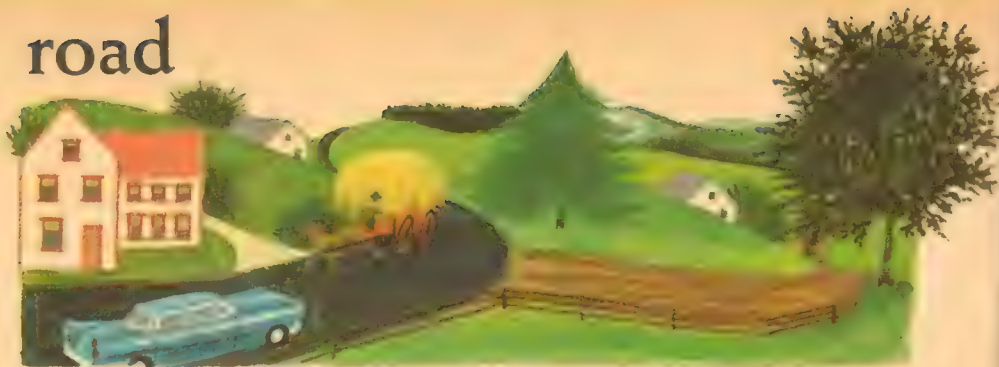


Some rivers run
through almost level land.
They do not run as fast
as those that run
down steep slopes.
They slowly wear away
the banks
along their sides.
Their valleys
grow wider and wider.
Wide, slow rivers
are easy for boats
to travel on.
Rivers are often called
"water highways"
because so many boats
travel on them.
The boats carry people.
They carry goods to market.

Many cities are built
beside busy rivers.
When a river
runs into the sea
it drops its load
of earth and sand
and pebbles
picked up from the land.
Sometimes the load
a river carries
is washed far out to sea.
Sometimes it piles up
on the bottom of the sea
at the river's mouth.
In time it reaches
above the water
and becomes dry land.
This new land
is called a delta.



road



A road is a broad path
for cars or carts
to travel on.

Some country roads
are not used much.

No special surface or topping
is put on them.

They are just dirt roads.
They may have deep ruts
cut by the car
or cart wheels.

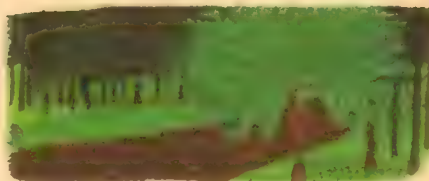
People work on other roads
to make them smooth.

They put a surface on them
so that they will not
get too muddy
when it rains.

Many roads have
crushed stone on top.

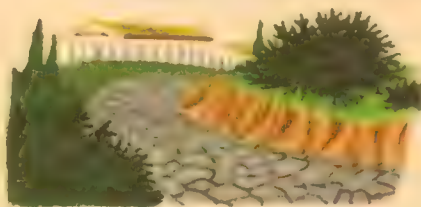
The rain goes
through this surface
and leaves it dry.

Some early roads
through the woods
had logs for a surface.



These roads were called
corduroy roads.

They were bumpy!
But even long, long ago
some good roads were made.



They were paved
with large, flat stones.
Later some roads
and city streets
were paved with bricks.

Roads paved with stone
or brick were all right
for horses and wagons
and for marching men.



But they are not good
for automobiles.
With automobiles
people traveled
faster and farther.
And every year there were
more and more automobiles.
We needed
more and better roads.
Now most of our roads and
streets are paved with
concrete or with blacktop.



Concrete is poured
on a smooth bed
of crushed stone.
The poured concrete is thick
and wet and white.
It dries hard and smooth.



Blacktop is also spread
on a smooth bed
of crushed stone.
It is thick and hot and sticky.
Heavy rollers press it flat
and smooth.
When it dries
there is a very good road.



Busy main roads
are called highways.
(See *highway* in the H book.)
Many trucks and automobiles
travel on them.
We say the traffic is heavy.
(See *traffic* in the T book.)

robin



Robins are friendly birds.
They live near people.

A robin is often
the first bird we see
in spring
that we did not see
in winter.

We know the robin
by its reddish breast.
Robins build their nests
of sticks and leaves,
bits of string,
grass and mud.



A robin's nest
may not be beautiful.
But it is strong.
The mother bird lays her eggs
in the nest.
The eggs are pale blue-green.
We call this color
"robin's egg blue."
Hungry baby robins hatch
from the eggs.

rock



Rock is the stuff
the earth's crust
is made of.
Much of it is in big
masses or layers.
But some is in small pieces.
Solid rock is so hard,
it seems as if
it could never be changed.
But it is changed.
Water carrying bits of rock
can break up big rocks.



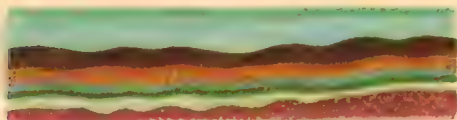
Waves eat away rock cliffs
beside a lake or sea.
Rivers cut their way down
through solid rock.

Wind carrying sand
can carve rock
into strange shapes.

Glaciers can grind up rock.
(See *glacier* in the G book.)

Rock is always
being worn away,
slowly, slowly.

But slowly, slowly,
new rock is made.



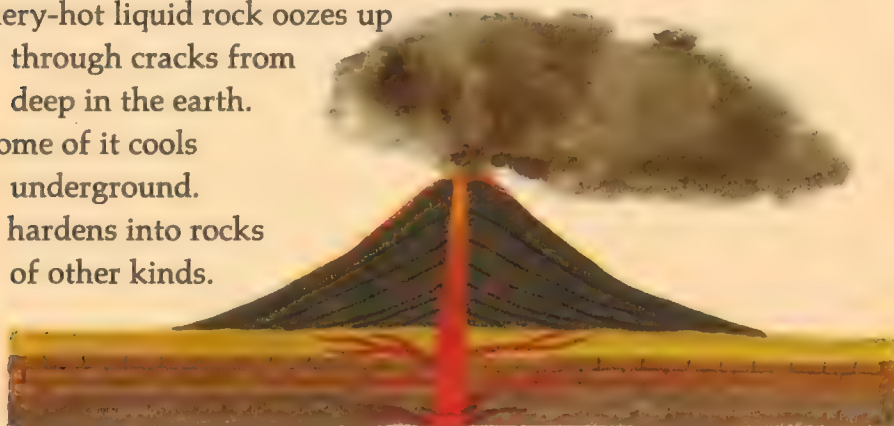
On the bottom of the sea,
layers of mud and sand
with pebbles and shells
in them are built up.

In time these layers
become solid rock
of different kinds.

Fiery-hot liquid rock oozes up
through cracks from
deep in the earth.

Some of it cools
underground.

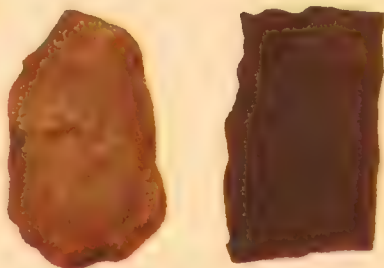
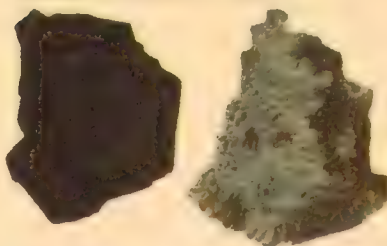
It hardens into rocks
of other kinds.



Some of the hot, liquid rock
pours out of volcanoes.

We call it lava.

It hardens into still
other kinds of rock.



There are many, many
different kinds of rock.



rocket

A rocket is a long tube.
It can be made to rise
high into the air.

Fuel is burned
inside the rocket
to make gas.

Some of the hot gas
shoots out the back
of the rocket.

Some pushes forward inside.
It pushes the rocket ahead.



Fourth of July skyrockets
have paper tubes.

Inside is a powder to burn
and form gas.

When the skyrocket
is high in the sky,
another powder lights.

When it burns,
it looks like colored stars.

Big rockets can go into space.
Many big rockets have tubes
made up of sections.

One section burns its fuel
and drops off.

Then the next section
does the same, and so on.

The top of a big rocket
is the most important part.

It is called the payload.

The payload
may be a warhead.

It may be a satellite.

It may even be
a space capsule
with an astronaut inside.

(See *satellite* and *space*
in the S books.)

rodeo



A rodeo
is a cowboy show.
The cowboys do fancy riding
on horses and bulls.
They do fancy roping.
Cowboys pay to enter a rodeo.
If they win contests,
they win money prizes.
A rodeo is a lively show.



rose



A rose is a pretty flower.
It may be red or pink,
yellow or white.
It may grow on a tall vine.
It may grow on a low bush.
Most kinds of roses have
sharp thorns on their stems.



A rose may grow wild
and have five petals.
It may be grown in a garden
and have many more
than five petals.
Gardeners give their roses
special food and care.
The rose belongs to a big family
called the rose family.
Apples, pears, peaches,
cherries, strawberries
and many other plants
belong to the rose family, too.

rubber

Rubber got its name
because it could rub out
pencil marks.

Rubber can stretch.

Rubber bounces.

Rubber is strong.

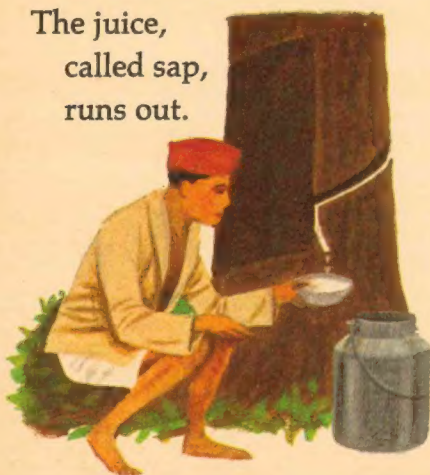
All rubber used to come
from rubber trees.

Today much of it is made
from oil or gas.

But a lot of natural rubber
is still used.

To get this rubber,
men make cuts
in the bark
of rubber trees.

The juice,
called sap,
runs out.



Men catch the sap
in cups.

They pour it into tanks
to thicken.



They make it into balls
or sheets of rubber.

Then they send it to factories
where it is made usable.

Rubber is used in
tires for automobiles,
airplanes, tractors
and bicycles.

We have rubber balls,
or balls with rubber
inside them.

(See *ball* in the B book.)

There are rubber hoses
and boots
and balloons.

Rubber is used
in many, many ways.

